

**WE CLAIM:**

1. A guidewire, comprising:  
a core member having a proximal end and a distal end;  
a tubular member having a proximal end and a distal end, the tubular member disposed about and connected to the distal end of the core member, the distal end of the tubular member extending distally beyond the distal end of the core member; and  
a coil member connected to the tubular member.
2. The guidewire of claim 1, wherein the coil member includes a distal end and a proximal end, and wherein the distal end of the coil member extends distally beyond the distal end of the tubular member.
3. The guidewire of claim 2, wherein the proximal end of the coil member is positioned proximate to or distal of the distal end of the core member.
4. The guidewire of claim 1, wherein the proximal end of the tubular member fits over the distal end of the core member.
5. The guidewire of claim 1, wherein the proximal end of the coil member fits over the distal end of the tubular member.
6. The guidewire of claim 1, further including a polymer sheath disposed about the coil member, the tubular member, and at least a portion of the core member.
7. The guidewire of claim 6, wherein the polymer sheath is disposed over all of the core member.
8. The guidewire of claim 1, wherein the tubular member is connected to the core member through laser welding or laser diode soldering.

9. The guidewire of claim 1, wherein the tubular member is connected to the core member through mechanical fastening means.

10. The guidewire of claim 8, wherein the tubular member is connected to the core member through crimping.

11. The guidewire of claim 10, wherein the coil member is connected to the tubular member through laser welding.

12. The guidewire of claim 1, wherein the tubular member has a hemispherical cross section.

13. The guidewire of claim 1, wherein the tubular member has a circular cross section.

14. A guidewire comprising:

a core member including a proximal portion having a proximal end and a distal portion having a distal end; and

a distal assembly including a tubular member having an inner surface adapted for connection to the distal portion of the core member, and an outer surface, and a coil member connected to the tubular member;

wherein the distal assembly is connected to the distal portion of the core member such that a portion of the distal assembly extends distally beyond the distal end of the core member.

15. The guidewire of claim 14, wherein the distal assembly is connected to the distal portion of the core member such that a portion of the tubular member extends distally beyond the distal end of the core member.

16. The guidewire of claim 14, wherein the coil member includes a distal end and a proximal end, and wherein the distal end of the coil member extends distally beyond the distal end of the tubular member.

17. The guidewire of claim 14, further including a polymer sheath disposed about the coil member, the tubular member, and at least a portion of the core member.

18. The guidewire of claim 14, wherein the distal assembly is connected to the core member by laser welding or laser diode soldering.

19. The guidewire of claim 14, wherein the distal assembly is connected to the core member through mechanical fastening means.

20. The guidewire of claim 14, wherein the distal assembly is formed by laser welding the core member to the tubular member.

21. The guidewire of claim 14, wherein the tubular member has a hemispherical cross section.

22. The guidewire of claim 14, wherein the tubular member has a circular cross section.

23. A method of making a guidewire, the method comprising:  
providing a core wire including a proximal portion having a proximal end and a distal portion having a distal end;  
connecting a tubular member to the distal end of the core wire, the tubular member having a proximal end and a distal end, the tubular member being connected to the core wire such that it includes a portion that extends distally beyond the distal end of the core wire; and

connecting a coil member to the tubular member, the coil member being connected such that it includes a portion that extends distally beyond the distal end of the tubular member.

24. The method of claim 23, wherein the coil member includes a distal end and a proximal end, and wherein the distal end of the coil member extends distally beyond the distal end of the tubular member.

25. The method of claim 23, wherein the tubular member is configured such that the proximal end of the tubular member fits over the distal end of the core member.

26. The method of claim 23, wherein the coil member is configured such that the proximal end of the coil member fits over the distal end of the tubular member.

27. The method of claim 23, further comprising disposing a polymer sheath about the coil member, the tubular member, and at least a portion of the core member.

28. The method of claim 23, wherein connecting the tubular member to the core member comprises welding or soldering

29. The method of claim 28, wherein connecting the tubular member to the core member comprises laser welding.

30. The method of claim 28, wherein connecting the tubular member to the core wire comprises laser diode soldering.

31. The method of claim 23, wherein connecting the coil member to the tubular member comprises welding.

32. The method of claim 31, wherein connecting the coil member to the tubular member comprises laser welding.

33. The method of claim 23, wherein connecting the tubular member to the core member comprises mechanical fastening means.

34. The method of claim 33, wherein connecting the tubular member to the core member comprises crimping.

35. A method of making a guidewire, the guidewire comprising a core member having a distal end and a proximal end, a tubular member having a proximal end and a distal end, and a coil member having a distal end and a proximal end, the method comprising:

connecting the coil member to the tubular member to form a distal assembly having a distal end and a proximal end; and

connecting the proximal end of the distal assembly to the distal end of the core member.

36. The method of claim 35, wherein the tubular member is connected to the core member such that it includes a portion that extends distally beyond the distal end of the core member.

37. The method of claim 35, wherein the coil member is connected such that it includes a portion that extends distally beyond the distal end of the tubular member.

38. The method of claim 35, wherein the proximal end of the tubular member fits over the distal end of the core member.

39. The method of claim 35, wherein the proximal end of the coil member fits over the distal end of the tubular member.

40. The method of claim 35, wherein the tubular member is connected to the core member through welding or soldering.

41. The method of claim 40, wherein the tubular member is connected to the core member through laser welding.

42. The method of claim 40, wherein the tubular member is connected to the core member through laser diode soldering.

43. The method of claim 35, wherein the coil member is connected to the tubular member through welding.

44. The method of claim 43, wherein the coil member is connected to the tubular member through laser welding.

45. The method of claim 35, wherein the tubular member is connected to the core member through mechanical fastening means.

46. The method of claim 45, wherein the tubular member is connected to the core member through crimping.

47. The method of claim 35, further comprising disposing a polymer sheath about the coil member, the tubular member, and at least a portion of the core member.

48. A method of making a guidewire, the method comprising:  
providing an elongated core wire including a proximal portion having a proximal end and a distal portion having a distal end;  
providing a distal assembly including a tubular member defining a lumen adapted to receive the distal end of the core wire, and a coil member connected to the tubular member; and  
securing the distal assembly to the core wire.

49. The method of claim 48, wherein the coil member includes a distal end and a proximal end, and wherein the distal end of the coil member extends distally beyond the distal end of the tubular member.

50. The method of claim 49, wherein the proximal end of the coil member is positioned proximate to or distal of the distal end of the core member.

51. The method of claim 48, wherein the tubular member is connected to the core member through laser welding or laser diode soldering.

52. The method of claim 48, wherein the coil member is connected to the tubular member through laser welding.

53. The method of claim 48, wherein the tubular member is connected to the core member through mechanical fastening means.

54. The method of claim 53, wherein the tubular member is connected to the core member through crimping.

55. A guidewire comprising:  
an elongate core member having a distal end and a proximal end; and  
distal assembly means positioned proximate the distal end of the core member;  
wherein the distal assembly means extends distally of the distal end of the core member.

56. The guidewire of claim 55, wherein the distal assembly means comprises a tubular apparatus configured to fit over and secure to the distal end of the core wire.

57. The guidewire of claim 56, wherein the distal assembly means comprises a tubular member configured to fit over and secure to the distal end of the core wire, and a coil member configured to fit over and secure to the distal end of the tubular member.

58. The guidewire of claim 55, wherein the distal assembly means comprises a tubular section configured to fit over and secure to the distal end of the core wire and an integrally formed flexible section.

59. A medical device comprising:

an elongated shaft including a proximal portion having a proximal end and a distal portion having a distal end; and

a distal assembly including a tubular member and a ribbon or wire connected to and extending distally of the tubular member;

wherein the distal assembly is connect to the distal portion of the elongated shaft such that a portion of the distal assembly extends distally beyond the distal end of the elongated shaft.

60. The medical device of claim 59, wherein the ribbon or wire is a coiled ribbon or wire.

61. A method of making a medical device, the method comprising:

providing a tubular member defining a lumen and having a distal end;

coupling a ribbon or wire to the tubular member such that the wire or ribbon extends distally beyond the distal end of the tubular member;

providing an elongated shaft having a distal end; and

coupling the tubular member to the elongated shaft such that the wire or ribbon extends distally beyond the distal end of the elongated shaft.

62. The method of claim 61, wherein the wire or ribbon is a coiled wire or ribbon.